Tiffany & Harris,

Planing Shingles,

No. 13,958, Patented Dec. 18, 1855.

Fig. 3.

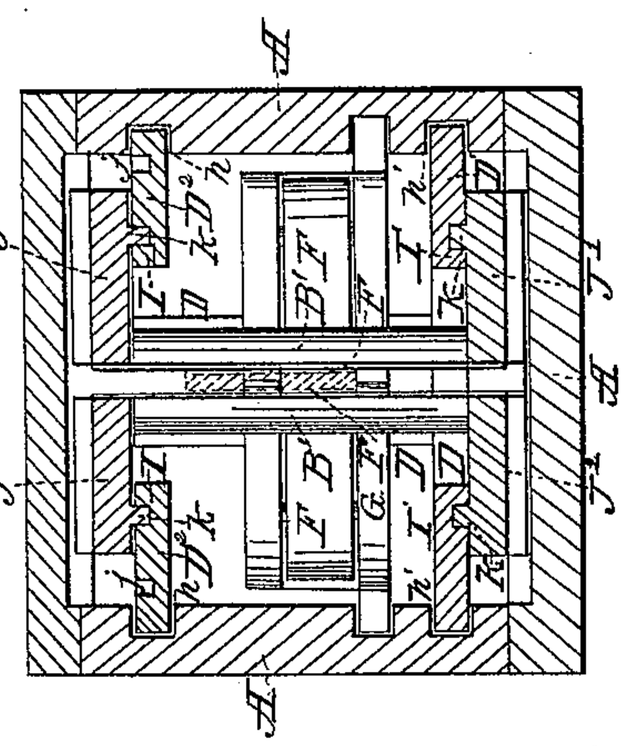
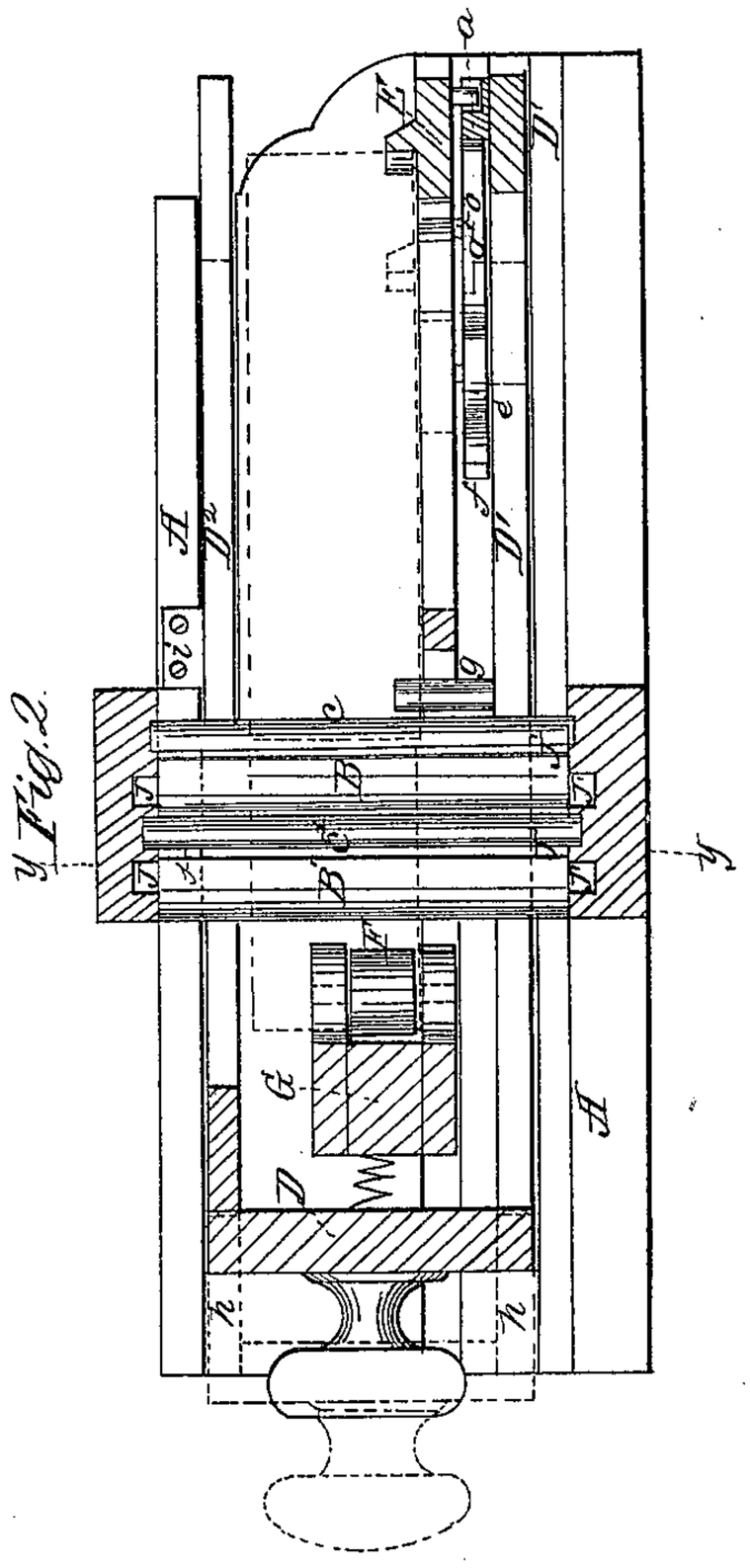


Fig. 1

Fig. 2.



UNITED STATES PATENT OFFICE.

J. TIFFANY AND M. HARRIS, OF PAINESVILLE, OHIO.

SHINGLE-MACHINE.

Specification of Letters Patent No. 13,958, dated December 18, 1855.

To all whom it may concern:

Be it known that we, JOEL TIFFANY and MILO HARRIS, of Painesville, in the county of Lake and State of Ohio, have invented a new and useful Improvement in Machines for Making Shingles; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a plan or top view of a shingle machine constructed after our invention, the top cross-piece of the frame being removed. Fig. 2, is a vertical longitudinal section of the same. Fig. 3, a vertical transverse section.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of our invention consists in providing a primary and secondary set of knives, a primary and secondary set of feed rollers, an oblique grooved driver, a primary feed carriage and a pair of secondary feed grippers and arranging and combining the whole in the manner hereinafter specified and shown, for the purpose of cutting taper shingles.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A, A; represents a frame of rectangular form for supporting and containing the operative mechanism, it is open at its top, bottom and ends.

B, B, B′, B′, are the knives for cutting and shaving the shingle. They are set obliquely in a vertical position near the center of the frame. The knives B, B, are larger than those B′, B′, and are arranged in front of B′, B′, and have their cutting edge set a little farther apart than the same, so that they may serve for first taking off the rough of the shingle and thereby lessen the thickness of the cut for the secondary set of knives, and thus prevent resistance and avoid liability of the point of the shingle being clipped.

C, C, are two yielding or elastic feed rollers arranged in front of the primary knives B, B, in a vertical position; these rollers are independent of the driver D, and serve for first feeding the shingle to the knives B, B.

C′, C′, are two similar feed rollers arranged behind the knives B, B, for feeding the shingle to the knives B′, B′, as it is operated upon by those B, B. These last rollers may be independent of the driver D, or they may be attached to it and be capable of accommodating themselves to the movements of the knives.

E, is the feed carriage; it is combined with the driver by means of a cross piece *a*, of said driver, and buttons *a′*, *a′*, which turn on fulcra *b*, *b*, of the carriage and fit, when connected, with the driver, in recesses *d*, *d*, and when disconnected in cam-shaped recesses *e*, *e*, which are formed in pieces *f*, *f*, of the frame A, and serve for connecting and disconnecting the carriage from the driver. This carriage has only a short movement, owing to being disconnected from the driver at the termination of the recesses *d*, *d*, and therefore serves only for feeding the shingle forward far enough to be caught by the grippers F, F, which are arranged on a sliding block G, which during the movement of the carriage is independent of the driver D, but at the completion of said movement is connected to it by means of pins or stops *g*, *g*, on the upper side of the lower part D′, of the driver D, said pins coming in contact with the outer ends of the grippers, and owing to their arrangement, as shown, cause their inner ends to bite upon and firmly grip the butt of the shingle and carry it along until it escapes by the two sets of cutters, completed, when, as the driver starts back, they let it fall or discharge it upon the bottom of the frame A. The object in using a carriage having a short movement, and grippers in combination therewith, is, that feed rollers C, C, may be employed in front of the primary knives B, B, without interfering with the feeding of the shingle entirely through the machine.

The driver D, D′, D², forms a rectangular frame of the construction shown in the drawing, and its parts D¹, D², slide in grooves *h*, *h′*, of the frame A, and are confined from having lateral play by pieces *i*, *i*, which play in straight grooves *j*, *j*, formed in the parts D′, D². In the upper side of the part D′ and also of D², oblique grooves I, I, I′, I′, are formed and in each of the grooves I, a pintle or guide K, of a horizontal arm J, leading from the upper end of each of the knives, plays freely, and in each of the grooves I′, I′, similar pintles or guides K, of horizontal arms J′, leading from the

lower end of the knives also play. By having the knives stationary and thus combined with the driver they are caused to move laterally toward each other or gradually approximate as the driver moves forward and consequently to cut the shingle taper, and as the driver returns to again move apart ready for another operation. It is this arrangement, combined with the feeding mechanism that constitutes our invention, and whereby we are enabled to produce a simple, cheap and very effective machine for cutting taper shingles.

In the drawing, the machine is shown by black lines ready for commencing the operation. The shingle, illustrated by yellow color, is placed on the machine with its point against the head block of the carriage, the operator lays hold of a handle on the front end of the driver draws it forward to the position shown in blue lines and thereby causes the primary carriage to force the shingle far enough forward to place the butt of the shingle between the grippers, as illustrated in dotted yellow color. At this moment the stops or pins *g*, *g*, on the driver act upon the outer ends of the grippers and cause the grippers to bite upon and firmly grip the butt of the shingle and consequently to draw it between the knives as the driver is drawn forward. As the shingle passes between the gradually approximating knives, the primary set B, B, take off the rough and give it the taper shape while the secondary set B′, B′, shave it smoothly from butt to tip. As soon as the shingle is completed, the driver is moved back and the grippers thereby caused to release their hold upon the shingle and allow it to fall upon the bottom of the frame or upon the floor.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is,

Providing a primary and secondary set of knives B, B′, a primary and secondary set of feed rollers, C, C′, an obliquely grooved roller D, D′, D², a primary feed carriage E, and a pair of secondary feed grippers F, F, and arranging and combining the whole in the manner and for the purpose herein specified and shown.

JOEL TIFFANY.
MILO HARRIS.

Witnesses:
J. T. Doolittle,
Ann M. Doolittle.